DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Office of Structural Materials
Quality Assurance and Source Inspection

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Contract #: 04-0120F4
Cty: SF/ALA Rte: 80 PM: 13.2/13.9
File #: 99.28

WELDING INSPECTION REPORT

Resident Engineer: Siegenthaler, Peter
Address: 333 Burma Road
City: Oakland, CA 94607

Report No: WIR-017660
Date Inspected: 31-Oct-2010

Project Name: SAS Superstructure
Prime Contractor: American Bridge/Fluor Enterprises, a JV
Contractor: Zhenhua Port Machinery Company, Ltd (ZPMC)

OSM Arrival Time: 700
OSM Departure Time: 1900
Location: Shanghai, China

CWI Name: Li Yang and Zhu Zhong Hai

CWI Present:	☑ Yes	☐ No		**Inspected CWI report:**	☐ Yes	☐ No	☑ N/A	
Rod Oven in Use:	☑ Yes	☐ No	☐ N/A	**Electrode to specification:**	☑ Yes	☐ No	☐ N/A	
Weld Procedures Followed:	☑ Yes	☐ No	☐ N/A	**Qualified Welders:**	☑ Yes	☐ No	☐ N/A	
Verified Joint Fit-up:	☐ Yes	☑ No	☐ N/A	**Approved Drawings:**	☑ Yes	☐ No	☐ N/A	
Approved WPS:	☑ Yes	☐ No	☐ N/A					
Delayed / Cancelled:	☐ Yes	☑ No	☐ N/A					

Bridge No: 34-0006
Component: OBG Trial Assembly

Summary of Items Observed:

On this date Caltrans OSM Quality Assurance (QA) Inspector Mr. S. Manjunath Math was present during the time noted above for observations relative to the work being performed.

This QA Inspector randomly observed the following work in progress:

Orthotropic Box Girder (OBG) at Trial Assembly Areas

Segment 11CW to Segment 11DW (Root Gap and Offset)

This QA Inspector performed Dimension Control Inspection along with Caltrans QA Inspector Mr. Murugan Manikandan on Oct 31, 2010 for measuring root gap and offset at the Transverse Splice for the Segment 11CW to Segment 11DW between Panel Point (PP) 103 to PP 104 at the following locations:

Work Point W5 towards Work Point W6 (Edge Panel Cross Beam Side).

Work Point W6 towards Work Point W4 (Side Panel Cross Beam Side).

Work Point W4 towards Work Point W3 (Bottom Panel).

Work Point W3 towards Work Point W1 (Side Panel Counter Weight Side).

Work Point W1 towards Work Point W2 (Edge Panel Counter Weight Side).

Work Point W2 towards Work Point W5 (Deck Panel).

The QA Inspector measured the root gap using 1(One) taper gauge and measured the offset using a bridge cam gauge.

The measurements were recorded in the Dimension Control Plan (DCP) on a separate form and submitted to the Lead Inspector and Engineer for review and disposition.

Segment 11AE to Segment 11BE (Skin Flatness)

This QA Inspector performed Joint Inspection along with Caltrans QA Inspector Mr. Manikandan Murugan to check the skin flatness between Segment 11AE to Segment 11BE between Panel Points (PP) 97 and PP 98 at the following locations:

The skin flatness was measured on North side (Cross Beam Side at B1 and B2 locations) and South side (Bike Path Side at B3 and B4 locations) at 100mm from the weld connecting Bottom Panel to Side Panel using 5000mm string line to verify overall flatness. The straight edges of 600mm and 630 mm of length were also used to measure the localized flatness.

The skin flatness was measured on North side (Cross Beam side at T1 location) and South side (Bike Path Side at T2 location) at 100mm from the weld connecting Deck Panel to Edge Panel using 5000mm string line to verify overall flatness. The straight edges of 600mm and 630 mm length were also used to measure the localized flatness.

The measurements were recorded in the Dimension Control Plan (DCP) on a separate form and submitted to the Lead Inspector and Engineer for review and disposition.

Segment 11BW to Segment 11CW (U-Rib to U-Rib)

This QA Inspector performed Dimension Control Inspection for measuring offset along with Caltrans QA Inspector Mr. Murugan Manikandan on the U-Rib to U-Rib from Cross Beam side towards Bike Path side at a total of 39 locations on Segment 11BW to Segment 11CW between Panel Points (PP) 100 to PP 101 at the following locations:

The offset was measured within 50mm from the Deck Panel on U-Rib on the South and North side. The QA Inspector measured the Offset using 1(One) Meter Straight Edge.

The measurements were recorded in the Dimension Control Plan (DCP) on a separate form and submitted to the Lead Inspector and Engineer for review and disposition.

Segment 11AW to Segment 11BW (Longitudinal Diaphragm to Longitudinal Diaphragm)

This QA Inspector performed Dimension Control Inspection along with Caltrans QA Inspector Mr. Manikandan

Murugan on the Longitudinal Diaphragm to Longitudinal Diaphragm at Work Point W3 (Counter Weight side) and at Work Point W4 (Cross Beam side) for the Segment 11AW to Segment 11BW between Panel Point (PP) 97 to PP 98 at the following locations:

The offset was measured at 5 (five) different locations in which 2 (Two) locations were at Flange area and 3 (Three) locations were at Web area. The QA Inspector measured the Offset using 1(One) Meter Straight Edge.

The Sweep was measured at 100 mm from both sides of the Floor Beam and 800mm from both sides of floor Beam and at Center (Total 5 Locations) using string line.

The measurements were recorded in the Dimension Control Plan (DCP) on a separate form and submitted to the Lead Inspector and Engineer for review and disposition.

Lift 10 West (X37B Brackets)

This QA Inspector performed Dimension Control Inspection on October 29, 2010 for the Segment 10AW, Segment 10BW and Segment 10CW. Measured the distance between road barrier bolt hole drilled at X37B from deck panel to the cope hole at X37B bracket installed at Corner Assembly, Cross Beam and Counter Weight side at east and west side of the X37B brackets. The following location was identified were retro-fit plate to be installed.

Visual inspection was performed as on date i.e., October 31, 2010 to verify the installation of retro-fits at following locations.

At Panel Points(PP) 86.25, Cross Beam side.
At Panel Points(PP) 86.25 and PP 86.75, Counter Weight side.

At Panel Points(PP) 87.25, Cross Beam side.

At Panel Points(PP) 89.75, Cross Beam side.
At Panel Points(PP) 89.25, Counter Weight side.

At Panel Points(PP) 91.75, Counter Weight side.

At Panel Points(PP) 92.75, Cross Beam side.
At Panel Points(PP) 92.75, Counter Weight side.

At Panel Points(PP) 94.75, Cross Beam side.

The measurements were recorded in the Dimension Control Plan (DCP) on a separate form and submitted to the Lead Inspector and Engineer for review and disposition.

Bike Path at Bay # 19

This QA Inspector performed Dimension Control Inspection on the Bike Path bottom panel for flatness check after heat straightening and bike path identified as BK004A-001.

The QA Inspector measured the flatness using 1500mm long straight edge and observed flatness dimensions out of tolerance.

The results of the inspection were informed to Caltrans Lead Inspector Mr. Hiranch Patel and ABF Mr. Peter Shaw.

Bike Path at Bay # 19

This QA Inspector performed Dimension Control Inspection on the Bike Path bottom panel for flatness check and bike path identified as below.

Bike path BK006A-001 measured dimension within tolerance.

Bike path BK004A-003 measured dimension within tolerance.

Bike path BK004A-010 measured dimension out of tolerance.

The QA Inspector measured the flatness using 1500mm long straight edge and observed flatness dimensions out of tolerance.

The results of the inspection were informed to Caltrans Lead Inspector Mr. Hiranch Patel and ABF Mr. Peter Shaw.

Segment 11CW to Segment 11DW (Transverse Splice at Deck Panel)

This QA Inspector observed the in-process welding by Flux Cored Arc Welding (FCAW) process on a Complete Joint Penetration (CJP) groove weld. The Weld joint was designated as OBW11A-003. The welder identification was 040759 and was observed welding in the 1G (Flat) position using approved Welding Procedure Specification WPS-B-T-223(2)1T-1. The piece mark was identified as the Deck Panel, transverse splice weld.

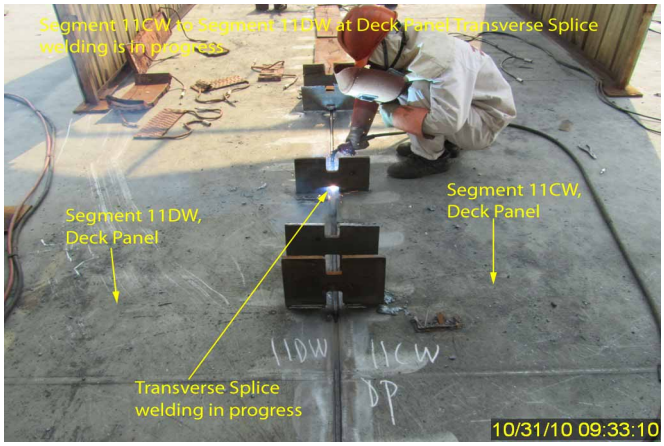
Please reference the pictures attached for more comprehensive details.

Segment 11DW (Counter Weight connection plate)

This QA Inspector observed the in-process welding by Shielded Metal Arc Welding (SMAW) process on a Complete Joint Penetration (CJP) groove weld. The Weld joint was designated as OBW11A-024. The welder identification was 044551, 057333 and 041713 and was observed welding in the 4G (Overhead) position using approved Welding Procedure Specification WPS-B-P-2214-Tc-U4b-FCM-1. The piece mark was identified as the Counter Weight connection plate at work point W1.

Please reference the pictures attached for more comprehensive details.

Unless otherwise noted, all work observed on this date appeared to generally comply with applicable contract documents.



Summary of Conversations:

No relevant conversations were reported on this date.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Eric Tsang 150000422372, who represents the Office of Structural Materials for your project.

Inspected By:	Math,Manjunath	Quality Assurance Inspector
Reviewed By:	Dsouza,Christopher	QA Reviewer